

**DEPARTMENT of ENVIRONMENTAL SERVICES**  
**Water Division - Watershed Management Bureau**

**LAKE TROPHIC DATA**

**MORPHOMETRIC:**

|                            |              |   |               |
|----------------------------|--------------|---|---------------|
| <b>Lake:</b>               | PERKINS POND | <b>Lake Area (ha):</b>                  | 63.54         |
| <b>Town:</b>               | SUNAPEE      | <b>Maximum Depth (m):</b>               | 3             |
| <b>County:</b>             | SULLIVAN     | <b>Mean Depth (m):</b>                  | 1.4           |
| <b>River Basin:</b>        | CONNECTICUT  | <b>Volume (m<sup>3</sup>):</b>          | 877000        |
| <b>Latitude:</b>           | 43°43'24" N  | <b>Relative depth:</b>                  | 0.3           |
| <b>Longitude:</b>          | 72°72'07" W  | <b>Shore Configuration:</b>             | 1.38          |
| <b>Elevation (ft) :</b>    | 1082         | <b>Areal water load (m/yr):</b>         | 1.81          |
| <b>Shore length (m):</b>   | 3900         | <b>Flushing Rate (yr<sup>-1</sup>):</b> | 1.3           |
| <b>% Watershed Ponded:</b> | 0            | <b>P retention coeff.:</b>              | 0.83          |
| <b>Watershed Area (ha)</b> | 284.9        | <b>Lake Type</b>                        | natural w/dam |

| <b><u>BIOLOGICAL:</u></b>      |    | <b>18-Feb-04</b>       | <b>10-Jul-03</b>     |
|--------------------------------|----|------------------------|----------------------|
| DOM. PHYTOPLANKTON (% TOTAL)   | #1 | DINOBRYON 85%          | CHRYOSOPHAERELLA 50% |
|                                | #2 |                        | DINOBRYON 40%        |
|                                | #3 |                        | PERIDINIUM 3%        |
| CHLOROPHYLL-A (ug/L)           |    |                        | 7.18                 |
| DOM. ZOOPLANKTON (% TOTAL)     | #1 | ciliate spp. 30%       | COLLOTHECA 62%       |
|                                | #2 | KERATELLA 18%          | KERATELLA 28%        |
|                                | #3 | CYCLOPOID COPEPODS 18% | TRICHOCERA 3%        |
| ROTIFERS/LITER                 |    | 50                     | 1479                 |
| MICROCRUSTACEA/LITER           |    | 80                     | 34                   |
| ZOOPLANKTON ABUNDANCE (#/L)    |    | 200                    | 1533                 |
| VASCULAR PLANT ABUNDANCE       |    |                        | Common               |
| SECCHI DISK TRANSPARENCY (m)   |    |                        | 3.0 VOB              |
| BOTTOM DISSOLVED OXYGEN (mg/L) |    | 5.4                    | 7.6                  |
| BACTERIA (E. coli, #/100ml)    | #1 |                        | <10                  |
|                                | #2 |                        | <5                   |
|                                | #3 |                        |                      |

**SUMMER THERMAL STRATIFICATION:**

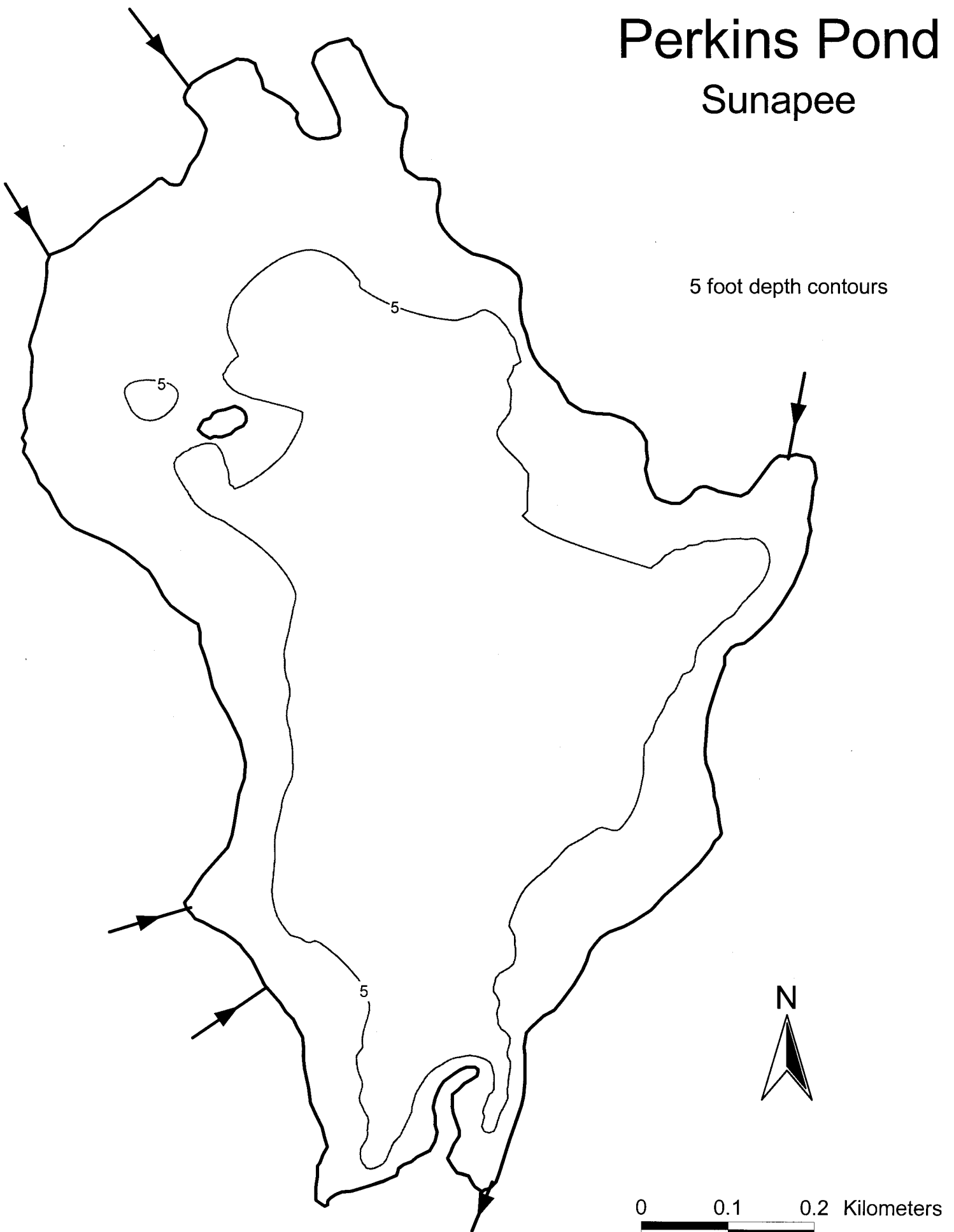
not stratified

|                                       |      |
|---------------------------------------|------|
| Depth of thermocline (m):             | None |
| Hypolimnion volume (m <sup>3</sup> ): | None |
| Anoxic Volume (m <sup>3</sup> ):      | None |

|  |                  |             |                           |            |              |              |
|--|------------------|-------------|---------------------------|------------|--------------|--------------|
| <b><u>CHEMICAL:</u></b>  |                  |             | <b>Lake: PERKINS POND</b> |            |              |              |
|  |                  |             | <b>Town: SUNAPEE</b>      |            |              |              |
|  | <b>18-Feb-04</b> |             | <b>10-Jul-03</b>          |            |              |              |
| <b>DEPTH (M)</b>   | 1.0              | 2.0         | 2.0                       |            |              |              |
| <b>pH (units)</b>  | 6.1              | 6.1         | 6.8                       |            |              |              |
| <b>A.N.C. (Alkalinity)</b>   | 6.3              | 7.1         | 4.7                       |            |              |              |
| <b>NITRATE NITROGEN</b>  | 0.09             | 0.10        | < 0.05                    |            |              |              |
| <b>TOTAL KJELDHAL NITROGEN</b>   | 0.70             | 0.70        | 0.50                      |            |              |              |
| <b>TOTAL PHOSPHORUS</b>  | 0.013            | 0.008       | 0.011                     |            |              |              |
| <b>CONDUCTIVITY (umhos/cm)</b>   | 84.5             | 87.5        | 73.8                      |            |              |              |
| <b>APPARENT COLOR (CPU)</b>  | 13               | 13          | 22                        |            |              |              |
| <b>MAGNESIUM</b>   |                  |             | 0.67                      |            |              |              |
| <b>CALCIUM</b>   |                  |             | 4.4                       |            |              |              |
| <b>SODIUM</b>  |                  |             | 6.9                       |            |              |              |
| <b>POTASSIUM</b>   |                  |             | 0.58                      |            |              |              |
| <b>CHLORIDE</b>  | 14               | 14          | 11                        |            |              |              |
| <b>SULFATE</b>   | 5                | 5           | 5                         |            |              |              |
| <b>TN : TP</b>   | 61               | 100         | 48                        |            |              |              |
| <b>CALCITE SATURATION INDEX</b>  |                  |             |                           |            |              |              |
| All results in mg/L unless indicated otherwise   |                  |             |                           |            |              |              |
| <b><u>TROPHIC CLASSIFICATION: 2003</u></b>   |                  |             |                           |            |              |              |
|  | <b>D.O.</b>      | <b>S.D.</b> | <b>PLANT</b>              | <b>CHL</b> | <b>TOTAL</b> | <b>CLASS</b> |
|  | **               | 2           | 3                         | 1          | 6            | MESO         |
| <b><u>COMMENTS:</u></b>  |                  |             |                           |            |              |              |
| <ol style="list-style-type: none"> <li>1. Previously surveyed in 1977 and 1986. The subjective evaluation of plant growth was the major change through the years, going from 'very abundant' in 1977 (bladderwort) to 'scattered' in 1986 to 'common' in 2003.</li> <li>2. Perkins Pond joined VLAP in 1987. The trophic parameters (chlorophyll, Secchi transparency and total phosphorus) have fluctuated through the years but show no significant increasing or decreasing trend; in other words, the trend is stable.</li> <li>3. Perkins Pond will be subject to an in-depth diagnostic study in 2004-2005 to evaluate nutrient sources.</li> <li>4. Good gravel launch site with ample parking.</li> <li>5. Despite the map, an outlet does not exist at the southern end of the pond. The northern inlet acts as both an inlet and outlet, depending on beaver activity and water levels.</li> </ol> |                  |             |                           |            |              |              |

# Perkins Pond

## Sunapee



III-216

## FIELD DATA SHEET

**LAKE:** PERKINS POND

**TOWN:** SUNAPEE

**DATE:** 7/10/03

**WEATHER:** Partly sunny, warm & breezy

[illegible]

**SECCHI DEPTH (m) :** 3.0 VOB

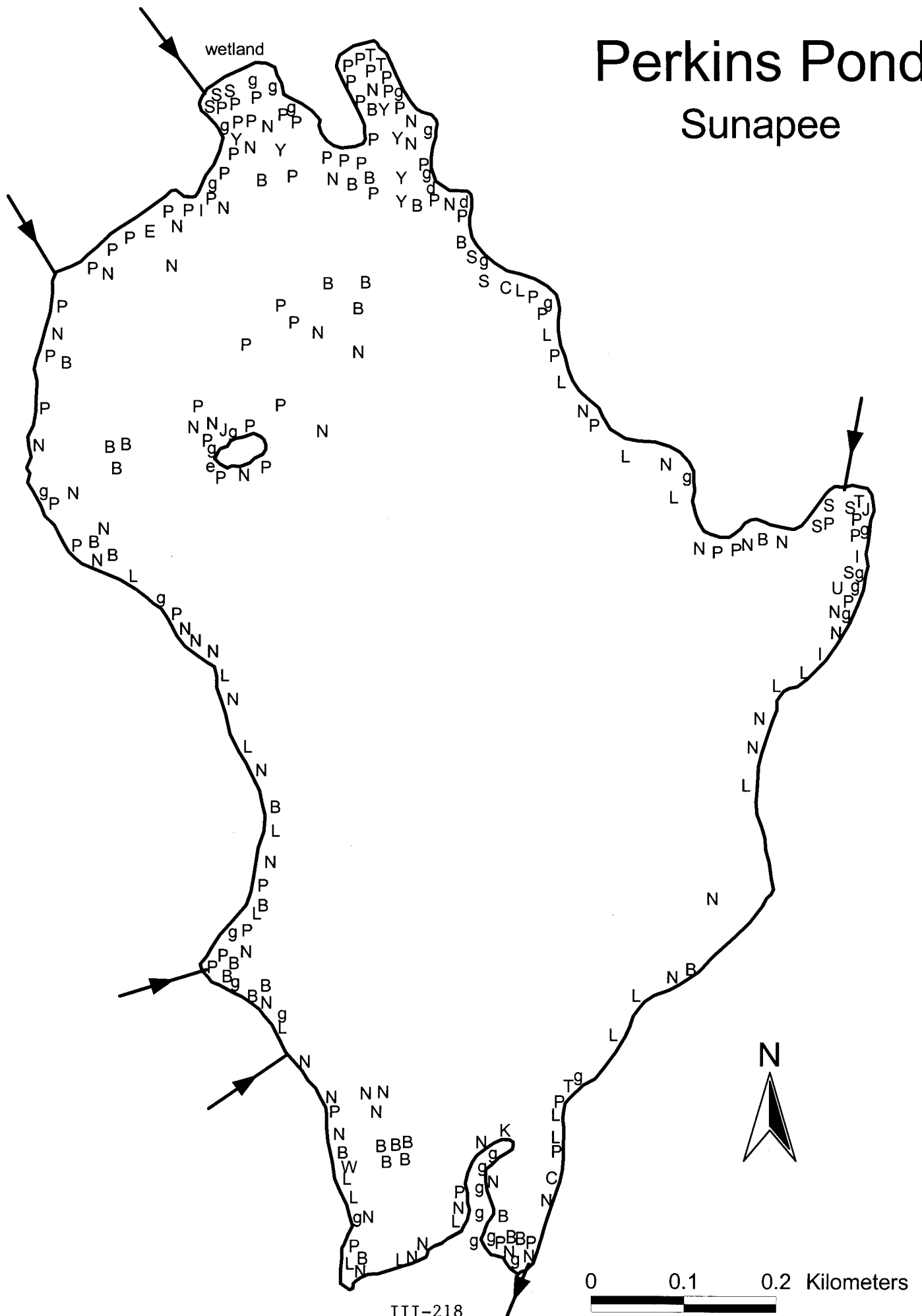
**COMMENTS:**

**BOTTOM DEPTH (m) :** 3.0

**TIME:** 1130

# Perkins Pond

## Sunapee



# AQUATIC PLANT SURVEY

**LAKE:** PERKINS POND

**TOWN:** SUNAPEE

**DATE:** 7/10/03

| KEY | PLANT NAME              |                   | ABUNDANCE   |
|-----|-------------------------|-------------------|-------------|
|     | GENERIC                 | COMMON            |             |
| d   | Dulichium arundinaceum  | Three-way sedge   | Scattered   |
| Y   | Nuphar                  | Yellow water lily | Scat/Common |
| P   | Pontederia cordata      | Pickernelweed     | Common      |
| T   | Typha                   | Cattail           | Scattered   |
| S   | Sparganium              | Bur reed          | Scattered   |
| J   | Juncus                  | Rush              | Scattered   |
| g   | Myrica gale             | Sweet gale        | Scattered   |
| I   | Isoetes                 | Quillwort         | Sparse      |
| U   | Utricularia             | Bladderwort       | Sparse      |
| N   | Nymphaea                | White water lily  | Common      |
| L   | Lobelia dortmanna       | Water lobelia     | Scattered   |
| B   | Brasenia schreberi      | Water shield      | Common      |
| C   | Lysimachia terrestris   | Swampcandle       | Sparse      |
| K   | Kalmia angustifolia     | Sheep laurel      | Sparse      |
| W   | Potamogeton             | Pondweed          | Sparse      |
| E   | Eriocaulon septangulare | Pipewort          | Sparse      |
| e   | Eleocharis              | Spike rush        | Sparse      |
|     |                         |                   |             |
|     |                         |                   |             |
|     |                         |                   |             |
|     |                         |                   |             |
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|     |                         |                   |             |
|     |                         |                   |             |
|     |                         |                   |             |
|     |                         |                   |             |
|     |                         |                   |             |

**OVERALL ABUNDANCE :** Common

**GENERAL OBSERVATIONS :**

1. Sweet gale plants were scattered along the shoreline.
2. A wetland was present along the northern inlet/outlet area.
3. Bottom growth of sterile, thread-like leaves and filamentous and benthic algae was common but was not listed above or depicted on the map.